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NOTES.

I.—EDUCATIONAL.

An attempt has been made recently, in the State Normal School at Worcester, Mass., to enlarge the scope of the ordinary study of psychology, as well as to render that study more objective and more useful to students, by making the systematic observation of children a part of the regular work of the school. The object is twofold: first, to put the students (as prospective teachers) into closer and better relations to children; and secondly, to gather a store of well ascertained facts wherewith in time to increase and rectify our present unsatisfactory knowledge of child-nature. The mode of procedure, hitherto, is somewhat as follows: First, the aim and methods of the study are carefully explained to the students at the beginning of their second half-year in the school; they then improve such opportunities as they have or can find—at home, in the street, in the families of neighbors and friends—of noticing with care and minuteness the spontaneous and unconstrained activities, bodily and mental, of children of all ages—at play, at study, at work, in conversation and intercourse with each other and with adults, in all situations, relations, and moods. Then, at the earliest convenient moment, careful and concise record is made, on blanks provided for the purpose, of the facts observed, these being kept as free as possible from any reflections or inferences of the observers. The blanks are ordinary half-sheets of note-paper with printed heading, giving date, observer's name, initials of the child observed, its sex, nationality, age, and the length of time between making the observation and recording it. Different tints of paper are used as an aid to classification; for example, white for ordinary personal observations, cherry-tint for hearsay or second-hand facts, canary-tint for reminiscences of the recorder's own childhood, chocolate-tint for observations continued without break for a certain specified length of time, and so on.

The number of observations recorded varies, of course, from week to week with the opportunities that present themselves, but a rough average would be not far from two a week for each pupil. During the two years that the experiment has been in progress in its present shape, somewhat more than four thousand eight hundred records have been made, and these have been carefully classified by subjects and preserved for reference. Many of them, from lack of skill or judgment in the observer, have little value apart from the wholesome endeavor that made them, but a considerable proportion are of permanent interest and significance to any student of child-nature. Taken as a whole, they already form a body of facts not to be found elsewhere, and the practice by which their volume is continually increased also improves their quality. They relate chiefly to the knowledge and ignorance and errors found in children of different ages; to their

instincts, as manifested in play and in voluntary occupations; to the abilities of children in various directions, as shown in drawing, mechanical construction, hunting and training animals, letter-writing, rhyming, story-telling, etc.; to their feelings (hundreds of records covering a very wide field), memory, imagination, attention, moral sense, idiosyncrasies, etc., and are classified according to such rubrics.

In addition, considerable information has been collected bearing upon the treatment of children (injurious or otherwise) by adults—parents, teachers, nurses, grown-up brothers and sisters, etc., and also upon the kinds of literature, stories, pictures, songs, and the like, that children enjoy most and remember longest. As to the good effect, as training, of these observations upon those who make and record them there can be no question whatever. The students soon become noticeably more interested in children and their ways, and more skilful in dealing with them, while certain individuals acquire much tact and ingenuity in following out the more complicated and obscure processes of child-life. Moreover, they get some good practice in right methods of observation and investigation generally, learning in some measure the caution, discrimination, and veracity required in studying nature. The exercise, as a whole, stimulates and quickens. Students do not find it a dull task. They have to be restrained, or they would have given a disproportionate amount of their time to it. Finally, graduates who have had a year or two of this training before going out to teach, manifestly take more pleasure and are more successful in their work in consequence. They frequently fill long letters with accounts of the interesting traits they discover in their pupils, and it is easy to see that their attitude towards exceptional and troublesome children is often marked by unusual intelligence and sympathy.

How radical a modification of methods of teaching psychology is here involved is evident. The "natural" method, which has slowly reconstructed modes of teaching all other subjects during the last century, has at last reached the science of man. This is the field work of psychology. The following commencement essays of graduates last summer were based entirely on these studies: *Falsehood in Children*, *Likes and Dislikes of Children*, *The Laughter of Children*, *What the School Child Thinks Of*, *How a Child Reasons*, *Plays of Children*, *Superstitions of Children*, *Study of a Child*. A brief digest and tabulation of results of the above records, which are not without scientific value, will appear in the *Journal* later. Great credit is due to Principal Russell for the skill with which he has organized this significant new departure.

Several very recent investigations show that some children lack the power to distinguish shades of sound, both vowel and consonant, and hence are capable of quite a range of distortion of sounds. This does not seem due, at least in some cases, to defective hearing, and hence the term "sound blindness" more often used, or "timbre deafness," which Professor J. Le Conte suggests as more apt. From the many illustrations of the defect cited it would appear that defective carrying power of memory has much to do with it. This seems to be one cause of the great difference between children in learning to read, but the phenomena need fuller study than they have yet received. Not a few of the transformations and mutilations of words reported would make excellent stock in trade for low comedy as they stand.

Dr. W. Camerer, whose long experimental studies on the sense of taste, with his wife, are of such high significance, now reports (*Zeitsch. f. Biolog.*, Heft 2, 1887) a careful study of two years' duration on the metabolisms of five children between the ages of seven and seventeen. During this period their food was observed and within wide limits regulated, their weight and growth recorded, excretion and even insensible perspiration registered at intervals. The results are too extended for report here, but the role of individual differences, especially of sex, the range of individual peculiarity in distribution of excretive function between bowels, kidneys, and skin, is surprisingly great.

An important hygienic educational address was given before the Berlin Medical Society, February 16, 1887 (*Berlin. klin. Wochenschr.*, March 7, 1887), by Dr. Gehrmann, on "Insufficiency of the muscles of the trunk." The cause may be due to the muscles themselves, or be reflex, perhaps from intestines, womb, etc., and may be general or local. The position in sleep is of great importance for giving physiological posture. The results of defect are scoliosis, bilaterally asymmetrical growth, wandering liver, sinking kidneys, falling womb, too feeble action of one or both lungs and resulting fluxions, and irregularity and disease of the heart.

A most instructive case of hereditary juvenile degeneration is described by Mabile and Ramadier (*Annales Méd.-psycholog.*, May, 1887). A boy whose neurotic parents felt schooling to be the chief end of life was isolated that he might learn more and quicker. Although industrious and ready of apprehension, he grew gloomy as adolescence approached. At eleven he was placed in a school where his reserved ways excited derision, which led to delusions of persecution. All acts in his environment had reference to him. Gradually mystic, erotic and demonic hallucinations developed, which were, however, mitigated by an operation for phimosis. Zoophobia was so intense that the sight of hens, cats, etc., caused pallor, tremor, etc. All these symptoms soon ended in rapid dementia.

Dr. A. Stewart's recent book on "Our Temperaments, their Study and their Teaching," is an excellent illustration of the revival of the theory of temperaments on a more scientific basis as the doctrines of phrenology decline. His book is designed as a practical guide, is very rich in literary illustrations, and tabulates the physical and mental characteristics of the four pure temperaments. The latter are considered as valid only to civilized, and chiefly for British races. The book is richly illustrated. The scientific plane of the book is about like that of Mantegazza's recent work on physiognomy and gesture. This, considering the obscure nature of the subject, is high praise.

A teacher of deaf-mutes has carefully counted the words used by deaf-mutes per day, and finds that, making allowance for abbreviations, scarcely more than a thousand are used, which is probably very far below those used by normal children.

No less than eight interesting cases have been lately reported in *Science* of sudden amnesia from shock or accident which remained

after consciousness was regained. Often all that preceded the accident by a few moments, hours, days, weeks, or even more, was permanently lost from memory. In one case at least, as perfectly normal health was slowly restored, memory of events came down to a point of time nearer and nearer the instant of the accident. In some cases there seems to have been some proportion between the length of the period of unconsciousness and the memory-blank before it. One writer thinks the memory is more likely to come down to the instant of injury if the latter deeply involves the senses, especially sight.

M. Ribot contributes to the October and November issues of his *Revue Philosophique* a very convenient summary of the scientific doctrine of attention. M. Ribot brings into prominence the distinction between spontaneous and voluntary attention. The former is guided by natural interest, by the most impressive sensations, and is well marked in children and in animals. The latter is a product of civilization and is an artificial process. Attention in any form is an unnatural state. It is a monoliteism, while the nature of thought consists in a constant change. Attention is based upon emotion, and its genesis must be connected with role of pleasure and pain in the struggle for life. The method of inducing voluntary attention is by appealing to emotional motives, by substituting a mediate unattractive good for an immediate attractive one. M. Ribot also enrolls himself amongst those who regard motion as the essence of attention. Without motion thought is impossible, and all thought is initial action.

J. J.

Mme. Clemence Royer contributes a very interesting article upon the notions of number in animals to the *Revue Scientifique* of November 19. Her main thesis is that animals have a good sense for forms and sizes of groups of objects, but that real counting is very limited, and the idea of "three," for example, as an abstract numerical notion is beyond their mental horizon. The trained dog does not appreciate the meaning of the numbers that he pretends to add, but regards them merely as an artificial means of gaining his master's approval; just as Sir John Lubbock's dog regards the labels that he brings when he wants something to eat or to go out. Animals are good geometers but poor arithmeticians. Geometrical notions are the more elementary of the two, and it is a product of civilization that has led us to substitute number for measure; to count instead of estimating "bunchwise," as do the uncivilized. Number is a perception to animals; it is an idea to us.

J. J.

II.—EXPERIMENTAL.

E. Fischer and F. Penzoldt report a study of the sensitiveness of the sense of smell (Liebig's *Annalen*, Bd. 231, 1, s. 131) as follows: In an empty room of 230 cubic metres content, a weighed quantity of substance dissolved in alcohol was sprinkled by a simple atomizing apparatus. The air of the room was mixed with a great fan for ten minutes, and the subject whose sense was to be tested was called in. The most striking result was that mercaptan was perceived in volumetric proportion to air of one to fifty thousand million. Assuming 50 cubic cm. of air to be inhaled, so small a quantity as

$\frac{1}{46,000,000}$ milligram of mercaptan is perceived. According to Kirchhoff and Bunsen, it requires $\frac{1}{1,400,000}$ milligram of soda to be perceived in the spectroscope.

Dr. Fauvelle thinks that there is an inverse ratio between smell and sight. In some forms of life the olfactory organ precedes all other parts of the body and becomes very mobile. Extreme prominence of the naso-labial organ not only limits the field of vision, but in some way is unfavorable to the highest development of the visual function. As the eyes acquire parallel axes and reach their highest perfection, the nose retires from its prominence in position and function. This may be true also of individuals and races.

Wendenski and Professor Henry P. Bowditch, of Boston, by different methods believed they had proved that, exceptionally to the general law that every tissue is fatigued by work, the nerve fibre in a nerve-muscle preparation was not exhausted by very long continued activity, and concluded that its function was approximately analogous to that of a metallic conductor. Professor Alex. Herzen (Arch. des Sciences phys. et natur., September, 1887) thinks he has proven conversely that when the muscle ceases to react to the stimulus of a prolonged tetanizing current its nerve is fatigued, while the peripheral end apparatus can continue to functionate.

Dr. J. M. L. Marique's thesis, entitled *Recherches experimentales sur le Mécanisme de Fonctionnement des Centres psycho-moteur du Cerveau*, though presented in 1885, deserves mention here for its admirable summary of researches on the excito-motor area and sensory centres of the cortex since 1870, and also for his novel method of experimentation, which, however, itself needs further study. He attempted to isolate the motor centres for limbs in the dog from the rest of the cortex by a vertical cut seven or eight millimetres deep around the sigmoid gyrus, severing thus, as he thinks, the arcuate association fibres without injuring the projective, or at least the pyramidal fibres. His conclusion is that section of the association fibres produces about the same result as severing the pyramidal fibres themselves, or that motor centres have no function in the absence of sensation.

Some of our readers will recall, as does the writer, an American who gave a few exhibitions of the remarkable power of not only playing different melodies of very different rhythm simultaneously with the two hands, but of writing with great rapidity, *e. g.*, a French madrigal with one hand while the other was writing a German sentence from Kant, a Psalm in Hebrew, etc. M. Paulhan, a French psychologist, has lately studied on himself the power of the mind to attend to two things at once. When he wrote the words of a poem while reciting another, the words or even letters of the two would occasionally get mixed. The confusion caused by repeating one poem aloud while mentally rehearsing another caused still more mixing. He timed the most rapid multiplication of a row of figures by two when done alone and the time required to repeat a poem by heart, and then found he could do both together in some-

what less time than the sum of the times of each separately. The simpler and more unlike the two processes the more nearly could both be done in the time of one, but very complex and similar acts cause much interference and loss, which is still greater if three things are attempted at once, as writing a poem with one hand and numbers with the other while repeating a song. The theory that in "double acts" the attention flits is not favored by these observations.

Interesting experimental investigation of the question whether after the brain had lost its function by sudden total anaemia its function could be restored by a supply of fresh blood, is reported by G. Hayem and G. Barrier (*Arch. de Physiol.* 5, 1887). Twenty-two dogs were decapitated, and from one second before to twelve minutes after the operation undefibrinated blood from a living horse was transferred into both carotids by a T-tube. If transfusion occurred after the head had become still, about two minutes after decapitation, respiratory movements, the corneal reflex, the secretion of saliva and tears were restored, and but twelve minutes after the knife fell the power of reviving any of these movements was gone. If transfusion took place four seconds after decapitation, the ordinary spastic movements ceased and apparently voluntary movements began again. Five or ten seconds after, while the voluntary movements of the head could be revived, the spastic motions could not be repressed. The latter, which generally cease in about ten seconds, can be restored if transfusion is made at once after their cessation.

A. König, in an article on Newton's law of color mixture and some recent experiments of E. Brodhun (*Sitzungsber. der Berliner Akad.* 1887, XVIII), urges that the principle that colors that look alike give mixtures that look alike involves the further statement that color comparisons remain valid if the intensity of all component lights is increased or decreased in the same proportion. This he shows is not quite correct for dichromatic systems like common cases of color blindness. By mixing light of wave-lengths 615μ and 460μ , a colorless mixture can be produced which remains colorless if their intensity is changed. A homogeneous light, however, which with a definite intensity of that mixture looks the same, becomes more yellow if the intensity is increased. To maintain the same color by such increase there must be a relative increase in the quantity of light of longer wave-length. The same thing is true of tri-chromatic systems. This is, however, harder to observe and is opposed to the results of Hering. It is best seen in mixtures of red, green and yellow reduced from middle intensity.

Tambroni and Algeni (*Riv. Sperim. di Fren.* XI) measured the duration of psychic reaction in the field of the space sense of the insane. The method of right and wrong cases was used in distinguishing whether one or two compass-points were applied. These observations, which require great patience and care, were made on four normal persons and four melancholics, demented, epileptics and maniacs each, making twenty-four patients in all. Two points required more time than one, and wrong judgments were longer yet. The average error, number of errors and time were also reduced by practice. These results with normal subjects were before known.

The effects of practice were observed only with maniacs and in part with epileptics. The aggregate results show that melancholics have the longest reaction times, and then come epileptics, demented and maniacs, and normal persons in descending series of times. That this scale or the numbers are typical it would at present be rash to affirm.

Tschis (Wjestnik. Psichiatrij, Bd. III) reports a study of the same problem with Flecheig's patients in Wundt's laboratory. Three cases of incipient dementia were psychometrically tested as to simple reaction time of choice, association and inference. With each subject an acceleration of the process of active apperception was demonstrated; whence Tschis concludes that morbid processes begin with a weakening of active perception. Every form of mental alienation, it is inferred, must begin with a reduction of the free creative function of will, for in this function the ego is determined by the entire conscious past.

Guicciardi and Cionini (Riv. Sperim. di Fren. XI) studied experimentally the effect of practice or memory, as they indifferently call it, on the duration of the following simple psychic processes, with tables for the successive days: simple reaction, the discrimination of touch on two points, the distinguishing of two spoken syllables with choice-reaction, the perception of three figures in predetermined order, reproduction of written letters, and word-association. The time beyond which no further reduction could be effected by practice was greater as the process was complicated. By very complex processes the longest time was generally *not* the first but perhaps the third reaction. After a pause of three weeks the reaction times were at first greatly increased, but very rapidly reached the previous minimum.

The results were not unknown before, the experimental process is not made very clear, and the theoretical introduction is very long and dull.

A prolonged and valuable study of the variability of the development of cerebral bloodvessels and their physiological and pathological significance, made by L. Löwenfeld, is reported in a late number of the *Arch. f. Psych.* The diameter of the basal vessels of the brain was measured in over 200 cases and compared with the weight of the normal brain. The relative variation was found so very great as to indicate that beside other factors, the nutrition of the brain is of great significance for its function. The sum of arterial capacity compared with 100 gr. of brain weight varied from 0.175 to 0.315 cm., age being a moderate factor in this variation. The left carotid was generally wider than the right. This variable has, in the discussion by the author which follows, great significance in explaining mental endowment, power of work, disposition to neuroses and psychoses, etc.

In a letter by Professor A. Pick to the editor of the *Neurolog. Centralblatt*, written Oct. 27, 1887, the statement of Prof. Steinbrügge that secondary sensations, or the fact that certain persons react with twofold sensation upon one simple sensation, were only known within the last few years (from which he is inclined to draw pathogenetic conclusions), is corrected by interesting citations from earlier

literature. In his jurisprudential psychology (1842), Friedreich cites the observation of a cultivated deaf-mute in whom music excited peculiar agitation in the feet and body which produced the most diverse moods. To these sensations, produced by different instruments, he gave color-names: trumpet, yellow; drum, red; organ, green, etc. Again, in the *Archiv ital. per le mal. nerv.*, 1865, says Pick, Berti describes an individual who, on looking at certain numerals, letters, etc., was impressed with imperative color concepts, and thinks it due to persistent association, and refers it to the field of Daltonism. This phenomenon seems to have been first named by Dr. Chevalier (Gaz. Méd. de Lyon, 1864) pseudocromasthesia.

III.—ABNORMAL.

Dr. W. Stark (Zeitsch. f. Psychiatrie, 1887, Heft 2 and 3) recorded the weekly variations of weight in six periodic and six circular forms of psychosis. In ten of these cases each paroxysm, whether maniacal or depressive, is attended by a descent of the weight curve, and each interval by an ascent of the curve. Both changes were greatest near the beginning of the paroxysm or interval. Restlessness and reduction in the amount of food probably account for the decrease. A study of metabolic modifications during these psychic changes is strongly desiderated.

After describing briefly six cases gathered from literature of similar psychosis of twins (see also Galton's interesting chapter on the psychic peculiarities of twins), Dr. H. Euphrat (Zeitsch. f. Psycho., 1887, H. 2 and 3), adds an interesting account of two maiden women, alike in character, but physically and mentally different, both of whom, at the age of about 40, one two years later than the other, had very similar attacks of nervousness, hallucinations of vision, hearing, touch, somatic feeling, and delusional ideas. There was no hereditary predisposition save that the father died of delirium tremens. From this and the other six cases, Dr. Euphrat dissents from Ball's opinion that such cases are entirely due to anatomical likeness of brain structure, and thinks the similarity of the psychoses to be due to psychic contagion, induction, or infection.

In a paper presented before the psychological section of the British Medical Association, 1887, Dr. Hack Tuke would call many of the cases commonly designated as *folie-à-deux*, communicated insanity. This latter term should at least be applied to cases in which one member of a family becomes insane from over-work or distress for another insane member. Women are more liable to such contagion than men. Especially those delusional ideas that have some semblance of truth—notably delusions of persecution—are transferred. For this reason the mildly insane should not be cared for by their friends, especially if the latter are of nervous temperament. This class of cases need far more detailed study than they have yet received.

Dr. Battaglia, director of an insane asylum in Cairo, describes many experiments upon himself with different qualities of hashish (La Psichiatria, 1887). He produced a great variety of symptoms with great uniformity, but never the commonly reported euphoric

apathy. This feeling, as well as the vanishing of time and space, sexual excitement, hallucinations of vision and hearing, he ascribes to other drugs often mixed with hashish, which, if pure, is only soporific. Cannabism begins with a stupid staring expression, and passes to apathetic melancholy and dementia. The prodromal stages of paranoia predispose to this habit with the national apathetic tendencies of the Oriental character, as in America on the basis of a more excitable temperament they predispose to alcoholism. Total, as distinct from gradual, abstinence is on the whole the least straining method of cure.

Dr. Crothers, of Hartford, estimates that of the half million drunkards in this country, about ninety per cent die of diseases due to this habit, and about the same per cent inherit degenerative nervous systems. Drunkenness can never be successfully resisted so long as it is regarded as a vice or a crime. It is a disease, and the inebriate must be forced into quarantine and there be treated till he recovers. Society may demand that no acute drinker be allowed to become chronic and incapacitated for work, and to prevent this may treat the patient by isolation as if he had a contagious disease.

Dr. S. Tonnini presented his somewhat novel views upon secondary paranoia at the late congress of Italian physicians at Siena, where they were met with many objections. He now (*Riv. Sperim. di Freniatr.* 1887, XIII) defines it more fully as personally acquired by a previously sound person in distinction from primary paranoia, which he regards as the further development of an inherited neuropsychopathic degeneration. A degenerative state, if not proclivity of the brain, such as is often the inherited result of a psychosis in an ascendant, may thus in some cases be acquired in an individual experience. The inherited basis may indeed be bad, and even predisposing, but will not bring the individual to paranoia without a new impulse. Only in secondary cases does recovery or full-blown stupidity occur. The current view of secondary paranoia regards it as residual or sequent to more active delirium. Dr. Tonnini appends five cases which seem to conform to his definitions.

Dr. Rudolph Arndt describes a remarkable case of trophic disturbance due to violent psychic excitement (*Deutsch. Med. Woch.*, 1887, No. 34). Albumen, hyaline cylinders, and epithelium from the urinary canal appeared in the urine, and the liver absorbed gall without any stoppage of the gall ducts. The author attempts to explain at length that psychic processes are only attendant if not incidental phenomena of metabolic and other physical processes. Therefore it is wrong to say the above symptoms were caused by fright, but they were rather due to the molecular-atomic processes set up by the shock, which, in reverberating through the system, affected the psychic organism first.

Edmond Grasset, in a very interesting doctoral thesis (Bordeaux, 1887) on alcoholic disturbances of cutaneous sensibility, based on very detailed tests on twelve subjects, distinguishes these symptoms as objective and subjective. The former are alpagesia (painfulness of touch), thermo-algesia, electro-algesia, and especially hyperaesthesia, analgesia from pricks. These disturbances are

distributed irregularly in spots and do not correspond with distinct nerve areas, and change both spontaneously and from external cause, for, strange to say, dermal and organic reflexes do not seem to be modified by these areas. Subjective disturbances consist of darting pains, formication, etc., generally in the limbs. Besides these, disturbance of sensibility in deeper tissues and internal organs and organs of sense, sometimes somewhat resembling hysteric symptoms, is common. The cause may be peripheral neuritis, lesion of the internal capsule, and especially of the pons and crura.

Seppelli (Revist. Sperim. di Freniatr., 1887, XII) has studied the blood of 104 male and 96 female lunatics, with the apparatus of Hayem and Nacet, to determine how the number of red blood corpuscles compared with that in the blood of normal subjects. In the latter there are about five millions per cubic millimetre in men and four and a half in women. Seppelli found this number reduced over fifty-two per cent in men and over sixty-three per cent in women. In pellagra this reduction was greatest, in melancholia next, and in mania least. The proportion of white to red corpuscles (normally 1.650 to 1.1300) was not greatly affected, though the figures indicate that it was rather less than more. The quantity of haemoglobin (tested by the chromocytometer of Bizzozero) was also much reduced. Both these reductions seemed to this indefatigable investigator greatest near the beginning of the psychoses, and both abnormalities were greater in men than in women.

In the *Revue de Médecine* Féré gives an interesting case of a rich merchant of 37, who in 1886 began to have "absences," in which he would suddenly stop in the midst of any business and stand motionless and smiling, sometimes for fifteen minutes. He at length consulted a physician, to whom he told the following history: As a boy, he took all injuries very hard and would brood over them for hours in solitude. He used to lapse during these brooding fits into reverie and castle-building, at first ephemeral and changing, but gradually permanent. He played many roles, according to his mood—soldier, statesman, scholar. After college, when business and domestic cares came, these reveries diminished till gradual insomnia brought back his musings, which now assumed definite form and took complete possession of him. For the last four years his reveries had slowly built a pavilion at Chaville with a pretty garden. By gradual additions the former became a mansion and the latter a park. Conservatories, stables, servants, and finally a beautiful woman came. Two lovely children crowned a joy that would have been complete but that his union to this imaginary woman (who was so real that he had grown entirely cold to his wife and almost forgot the existence of his children) was not legally his wife. These hallucinations were of visual origin and yielded to tonic treatment. Of similar nature, perhaps, were Mahomet's reveries during the years of cave-life, and Jeanne d'Arc's mystic day-dreams among the hills of Lorraine, and many other visionaries who have become honest victims of their own fancies. This class of cases must not be identified with those described in Dr. Clark's book on visions, which begin in distinct optical delusions at first recognized as such.

Pseudo-hallucinations, as conceived by Kandinsky in his very

valuable book of that name, are described as perverted memory- and fancy-concepts as vivid as real hallucinations, but lacking the sense of objective reality without the patient, *e. g.* words heard inwardly with the spiritual ear without a realization of their subjective origin. This conception J. Hoppe opposes (*Jahrb. f. Psychiatrie*, VII, 1 und 2), as it involves laying too great stress on the mere subjective appearance of externality, instead of considering the state of the peripheral nerves of the sense involved. Kandinsky's carefully studied cases are criticised at length, and the phenomena referred to real hallucination due to either entoptic or subcortical material or to concepts. Inner hearing is also said to be often attended by unconscious and faint articulating movements.

The *Journal of Mental Science* lately contained an article on facial blemishes as a cause of melancholia, in which it was said that at about the age of forty, single women sometimes conclude they are not attractive, and magnify some real or fancied defect; and married women, fearing to lose their husband's affection, sometimes grow self-conscious or jealous. Hair on the face, wrinkles, fatness or leanness, or scars, may cause depression.

Multiple paramyoclonus, involving clonic and even tetanic contractions—not fibrillar but of entire muscles—of the muscles of limbs, neck, back, is hard to distinguish from convulsive tic, or from chorea major, save that it is often symmetrical and rarely affects the face. In a case lately reported, even the muscles of the uterus, heart, diaphragm, bowels, etc., were affected with the characteristic twitches. A neuropathic basis and shock or psychalgia are the etiological moments.

The *Neurological Review* calls attention to "the astonishing apathy that exists as a whole in regard to the importance of a knowledge of the nervous system in the daily work of every member of the medical profession." The writer reminds us that the nerves penetrate and to a greater or less extent control every organ and tissue of the body and every physiological function, and concludes that it is absurd to leave neuro-psychic matters to specialists in medicine, as is commonly done in practice.